DECISION MEMO

MICHIGAN BLUFF COMMUNITY PROTECTION PROJECT

USDA Forest Service
American River Ranger District
Tahoe National Forest
Placer County, California

DECISION

Michigan Bluff is an unincorporated community in Placer County, California approximately five miles northeast of Foresthill on the American River Ranger District, Tahoe National Forest. The project location, perched on a ridge top between several large canyons and several smaller drainages, is in an area susceptible to wildfires. National Forest System (NFS) land surrounds much of the private residences and parcels in Michigan Bluff and is part of the Wildland Urban Interface (WUI). The Volcano Fire burned the Project area in 1960. The area was subsequently planted and now consists primarily of dense, nearly 60-year-old ponderosa pine plantations. Dense mixed conifer stands and brush are in the steeper drainages.

Management is needed to reduce fuel loads, improve forest health and resilience, and provide safer ingress and egress on existing roads for the public and emergency personnel in the event of a wildfire. Overcrowded forests, due to a lack of fire, combined with recent drought conditions, have contributed to higher levels of tree mortality from bark beetle attacks. Currently in the Michigan Bluff area, numerous groups of beetle-killed trees are intermixed with live trees that are highly susceptible to further attacks. These trees, in and near the WUI community of Michigan Bluff, are a potential fire hazard. Local roads have encroaching dense woody vegetation that could be unsafe for public and emergency personnel ingress and egress in the event of a wildfire. The Tahoe National Forest's American River Ranger District developed the Michigan Bluff Community Protection Project to increase forest resiliency, with an emphasis on fuels reduction to reduce potential fire intensity for community protection.

I have decided to respond to the purpose and need for the Michigan Bluff Community Protection Project with a combination of treatments on 1,792 acres. This includes fuel treatments on 652 acres (including Layne's butterweed and invasive plant treatment units), thinning and fuels treatments of vegetation on 925 acres, the creation of fuel breaks on 4.3 miles of roads and hazard tree removal on 13 miles of roads and reforestation on NFS lands. Acreages are approximate and not additive due to overlapping treatments. The Vegetation and Fuel Treatment Maps in Appendix B display the two main project areas of Chicken Hawk Road and Michigan Bluff. Descriptions of the project activities follow below.

Fuel treatment units. Surface and ladder fuels will be reduced through a combination of mechanical thinning, mastication, hand thinning, and prescribed fire on 523 acres. Trees up to 10 inches diameter at breast height (dbh) will be shredded or cut along with brush and chaparral. Prescribed fire may be used as a follow-up treatment to consume the masticated and/or piled material or as a stand-alone treatment. Fuels will be treated in the California spotted owl protected activity center. Types of prescribed burning may include underburning and hand or tractor pile burning. Where practical, natural barriers will be utilized to contain prescribed fire treatment units. Barriers include roads, ridges, rivers and natural fuel breaks. Where appropriate, compact mechanical equipment will be used for line construction. Line scrape width will be 2 to 5 feet and to bare mineral soil with no berm. Vegetative cut-width is 10 to 30 feet. Adjacent landowners will be allowed to cut and remove dead trees and live ladder fuels on NFS land within 100 feet of their structures and within 10 feet of propane tanks, chimneys or vents on structures after securing written authorization from the American River Ranger District (FSM 5100-2010-1 (2/01/2010)).

Layne's butterweed treatment units: In designated Layne's butterweed plant treatment units (approximately 109 acres at Sage Hill), fuels treatments will be conducted that focus on improving habitat for Layne's butterweed by creating a mosaic of burned and unburned areas while minimizing direct impacts to Layne's butterweed plants. In these units, fuels treatments will be limited to hand cut, lop and scatter and underburn (no piling, no mechanical treatment). Underburning and associated pretreatment will likely occur on a 3- to 5-year cycle; lop and scatter is limited to small trees, limbs and shrubs. During each underburn operation, to encourage new Layne's butterweed recruitment, dense patches of Layne's butterweed (approximately 10 five-foot by five-foot patches per acre) will be retained as seed islands (not burned). To improve control line, roadside areas may be masticated up to 25 feet (equipment to remain on road), except in areas containing Layne's butterweed plants. Treatment prescription may be adapted based on survival results of Layne's butterweed in test burn areas. Any modification will be targeted at improving conditions for Layne's butterweed.

Invasive plant treatment units. In designated invasive plant treatment units (approximately 20 acres along Gorman Ranch Road), fuels treatments will be conducted that focus on reducing Scotch broom density. In these units, fuels treatments will be limited to hand cut and pile (conducted only in early summer to late fall) and pile burning (no mechanical treatment or underburn). To improve control line, roadside areas may be masticated up to 25 feet from the road edge, except in areas containing Scotch broom. Treatment prescription may be adapted based on broom control success after initial treatment. Any modification will be targeted at reducing broom density.

Conifer thinning units. Trees 10 to 29.9 inches dbh will be thinned to a basal area average of 80 to 120 square feet in plantations, and up to 140 square feet in mixed-conifer stands with residual canopy that ranges from 30 to 50 percent (averaging at least 40 percent throughout the treatment units). Openings will be created up to one acre in size on ten percent of the treatment areas. On 746 acres, whole-tree ground-based mechanized logging will be used where slopes are generally less than 35 percent. On approximately 179 acres, cable logging will be used to suspend the logs in areas with slopes greater than 35 percent. Trees would preferably be whole-tree yarded. If whole-tree yarding is not used, limbs and tops would be hand piled and burned. Fuel treatments described above will also apply to the conifer thinning units. A maximum of 93 acres of openings may be site-prepped and planted with a variety of conifer species including ponderosa pine, sugar pine, Douglas-fir and incense cedar to increase the diversity and resilience of the forest stands. Site preparation is expected to be accomplished using prescribed fire, mastication, or tractor piling with the concurrent fuels reduction treatments. Planted trees would be released for survival by manually grubbing a five-foot radius around the planted trees until they are established above the competing vegetation.

Roads. To provide for project access and future management of the area, existing NFS roads will be repaired and maintained. Approximately 2.5 miles of temporary roads will help to implement the logging operations and will be decommissioned within three years of use along with existing unauthorized roads used as temporary roads. No permanent roads will be constructed. Three gates will be installed to enforce existing closures near the Chickenhawk Staging Area.

Roadside treatments. Concentrations of hazardous fuels will be reduced 300 feet on either side of 4.3 miles of roads while retaining two to three tons per acre of surface fuels. A combination of mastication, cutting and piling, pruning, pile burning, and broadcast prescribed fire will be used to create defensible areas where fire suppression actions have a high probability of success. These treatments will concentrate on surface, ladder, and conifer fuels generally less than 10 inches dbh. Hazard trees will be identified and removed on 13 miles of roads using the *Hazard Tree Guidelines for Forest Service Facilities and Roads in the Pacific Southwest Region* (USDA 2012). The approximately 286 acres of fuel breaks and the 355 acres of roadside hazard treatments could each overlay thinning or fuels treatment units, or may occur independently from fuels and thinning treatments.

Management Requirements

My decision includes implementation of management requirements, which were recommended by resource specialists based on a site specific review of the action alternative. These requirements will protect natural and cultural resources and infrastructure, and minimize disruptions to forest visitors during operations. Refer to Appendix A for a complete list of management requirements to be applied as part of this decision.

EXTRAORDINARY CIRCUMSTANCES

I find that there are no extraordinary circumstances that would warrant further analysis and documentation in an EA or EIS. I took into account resource conditions identified in agency procedures that should be considered in determining whether extraordinary circumstances might exist:

1) Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species –

Effects to terrestrial and aquatic species are described in a project-specific Biological Evaluation for Birds, Mammals, Amphibians, Reptiles, Fish and Invertebrates (BE, United States Forest Service (USFS 2019a)). Effects to botanical species, including plants and fungi, are described in the Biological Evaluation (USFS 2019b) of Botanical Species. Effects to federally listed plant and animal species are described in a project-specific Biological Assessment (BA, USFS 2019c) and Biological Opinion (BO, United States Fish and Wildlife Service (USFWS 2019)). The two BEs, the BA and BO describe the natural history, occurrences, habitat, and direct, indirect and cumulative effects of the action and are summarized below. In addition, the BO incidental take permit specifies the amount of take and the impact to California red-legged frog, its designated critical habitat and Layne's butterweed, and any "reasonable and prudent measures" that must be undertaken to reduce impacts.

Forest Service Pacific Southwest Region Sensitive Species

Because the project is either outside their range or contains no suitable habitat, the analysis determined that the Michigan Bluff Community Protection Project will not affect the greater sandhill crane, willow flycatcher, California wolverine, fisher, Lahontan Lake tui chub, hardhead, California floater, Great Basin rams-horn snail, black juga or saw-toothed lewisia.

The Michigan Bluff Community Protection Project analysis determined the project may affect individuals, but is not likely to result in a trend toward Federal listing or loss of viability for Western bumblebee, bald eagle, California spotted owl, great gray owl, northern goshawk, Pacific marten, pallid bat, Townsend's big-eared bat, fringed myotis, western pond turtle, foothill yellow-legged frog, Sierra bluegrass, Butte County fritillary, and Stebbin's phacelia.

Federally-listed Threatened or Endangered Species

The Michigan Bluff Community Protection Project will not affect any additional federally-listed threatened or endangered terrestrial wildlife (outside current range or no suitable habitat), aquatic or botanical species. The species considered included slender Orcutt grass, yellow-billed cuckoo, Cui-ui, Delta smelt, Lahontan cutthroat trout, vernal pool fairy shrimp, vernal pool tadpole shrimp, wolverine, Sierra Nevada yellow legged-frogs, and critical habitat for Sierra Nevada yellow-legged frog (USFS 2019).

The project **may affect, and is likely to adversely affect the California red-legged frog, its designated critical habitat and Layne's butterweed** as summarized below.

Layne's Butterweed

The proposed activities have a high likelihood of damaging or destroying individual Layne's butterweed plants, primarily during underburning. Conservation measures will minimize but not eliminate direct effects to Layne's butterweed; however, treatment activities likely will have a moderate to highly beneficial effect on habitat for Layne's butterweed. It is expected that habitat conditions will improve for the species, with recruitment into newly opened habitats near existing seed sources (USFWS 2019).

California Red-legged Frog

A total of approximately 419 acres of terrestrial habitat and 3.26 miles of lotic habitat for the California red-legged frog may be affected by the proposed action. Effects to habitat within the action area due to commercial thinning and the associated activities could cause indirect effects to the California red-legged frog. The primary effects to habitat are loss of cover in dispersal and upland habitat. Loss of vegetative cover could disrupt feeding and sheltering of juvenile and adult California red-legged frogs. Generally, the magnitude of these effects is expected to vary across the landscape due to a mosaic of burn severity (i.e., more intense effects are expected to occur in areas that burn with high severity) and the potential patchiness of mastication and thinning. These effects to the habitat are typically expected to be temporary and not persist long-term. Reforestation is anticipated to help reduce the effects of vegetation removal. The proposed project is expected to have long-term beneficial effects to California red-legged frog habitat by reducing the project area's risk of catastrophic wildfire. Reduction of the existing fuel load will decrease the likelihood that a future fire will spread through the upland and riparian habitat and render it unsuitable for California red-legged frogs (USFWS 2019).

Overall, the greatest effect to California red-legged frogs from the proposed project is expected to be direct injury or mortality from crushing and burning. Adverse effects to suitable habitat are anticipated to be concentrated in upland and dispersal areas and will be short-term, with long-term benefits to the species through reduction in risk of catastrophic wildfire (USFWS 2019).

Critical Habitat for the California Red-legged Frog

Critical habitat primary constituent elements (PCEs), or those physical or biological features and habitat characteristics required to sustain the species' life-history processes, within the action area include aquatic nonbreeding habitat (PCE 2) and upland habitat (PCE 3), and dispersal habitat (PCE 4). Ground disturbance and changes in vegetation resulting from the proposed project are anticipated to temporarily alter the suitability and quality of upland and dispersal habitats (PCEs 3 and 4) by damaging or destroying cover features (vegetation, burrows, logs, tree roots, and stumps). Conservation measures are expected to limit the potential for sedimentation issues to PCE 2 from ground based equipment operations but prescribed burning in upland and dispersal habitats (PCEs 3 and 4) could impact the near-term amount of cover available to California red-legged frogs. While loss of vegetation cover and coarse woody cover are adverse impacts of the proposed project, they are expected to be short-term effects. Through the reduction in existing fuel load on the landscape, the proposed project will have long-term beneficial effects to critical habitat PCEs by reducing the area's susceptibility to catastrophic wildfires (USFWS 2019).

Layne's Butterweed and California Red-legged Frog and Habitat Summary

The USFWS biological opinion stated that the :Michigan Bluff Community Protection Project, as proposed, is not likely to jeopardize the continued existence of Layne's butterweed or California red-legged frog or result in adverse modification of California red-legged frog critical habitat. The USFWS determined that the level of anticipated take (as defined in the BO) is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat. This amount of incidental take will not prevent this population of California red-legged frogs from recovering to pre-take levels because the project-specific conservation measures (such as limited operating periods, exclusion zones, and pre-activity surveys) will be effective in minimizing the amount and extent of incidental take from the proposed action (USFWS 2019).

2) Flood plains, wetlands, or municipal watersheds –

Floodplains and Wetlands

Wetlands in the project area are associated with springs, or stream channels. No effects to floodplains, wetlands or municipal watersheds are expected because these areas will be protected by the riparian buffer designated for waterbodies within the activity areas. Activities within these buffers to treat vegetation and reduce fuels will be done following management requirements and in close coordination with riparian specialists. Past monitoring shows effective implementation of management requirements during implementation adequately protects water quality.

Municipal Watersheds

A municipal watershed is one that serves a public water system as defined in the Safe Drinking Water Act of 1974, as amended, or as defined in state safe drinking water statutes or regulations (FSM 2500, Chapter 2540). A municipal watershed is a community water system "that serves at least 15 service connections used by year-round residents of the area served by the system; or regularly serves at least 25 year-round residents" (Safe Drinking Water Act, Section 1401, 42 U.S.C.A. 300f.(15)).

The State Water Quality Control Board has designated beneficial uses within the North and Middle Fork American River watersheds to include municipal and domestic water supplies, irrigation and stock watering, hydroelectric power generation, contact and non-contact recreation, canoeing and rafting, cold freshwater fisheries spawning, and wildlife habitat (CRWQCB 2011). Project management requirements and water quality Best Management Practices (BMPs) will protect water quality during project implementation.

3) Congressionally designated areas such as wilderness, wilderness study areas, or national recreation areas –

There will be no extraordinary circumstances related to these resources because none are present in the project area, as stated in #3 of the Applicable Categorical Exclusion section. The Forest Wilderness, Wilderness Study Areas, National Recreation Areas and project boundary GIS files were used to support this conclusion.

4) Inventoried roadless areas or potential wilderness areas –

No inventoried roadless areas (IRA) are within the Michigan Bluff Project units and the treatments will not affect the roadless character. GIS files were used to identify the North Fork Middle Fork American River IRA and its proximity to the units.

5) Research natural areas –

No research natural areas are present in the area. The Forest Research Natural Area and project boundary GIS files were used to support this conclusion.

6) American Indians and Alaska Native religious or cultural sites –

Local Native American tribes and groups were consulted through the project scoping. No additional religious or cultural sites were identified through scoping. Known sites will be avoided.

7) Archaeological sites, or historic properties or areas –

A record search, archaeological inventory, and cultural resource report (*R2019051700016 Michigan Bluff Project Archaeological Inventory*, C. Anderson, 2019) have been completed for the Michigan Bluff Project under provisions of the *Regional Programmatic Agreement* (RPA 2018) with the Advisory Council on Historic Preservation and the California State Historic Preservation Office (SHPO), which complies with Section 106 of the National Historic Preservation Act. The inventory documents twenty-two archaeological sites (sixteen historic, four multicomponent and two prehistoric) within the project

area. The site boundaries will be flagged for avoidance during project activity. Assessment of historical and cultural resources within the project area indicates implementation of the action would not affect any cultural resources eligible for listing in the National Register of Historic Places, nor would it cause loss or destruction of any cultural resources. Potential effects on heritage resources would be avoided through implementation of the cultural resource management requirements and by following standard procedure as outlined in the RPA 2018. In the event that historic properties are discovered during project implementation, operations will cease in the area until the district archaeologist and/or heritage program manager have visited the area and determined an appropriate course of action following Stipulation 7.10 of the RPA 2018.

COLLABORATION, SCOPING AND PUBLIC INVOLVEMENT

Prior to the official scoping period, Forest Service staff began discussing the project with local residents from the communities of Foresthill, Michigan Bluff, and Iowa Hill, Bureau of Land Management (BLM), Cal Fire and others to get their insights relative to the proposed Project. The project was shared and discussed with Firewise Communities and at Placer County Fire Safe Alliance monthly meetings. It was also discussed at Foresthill Forum Municipal Advisory Council, a public monthly meeting that includes local stakeholders such as landowners and businesses, representation by the Placer County Board of Supervisors, and local fire and law enforcement agencies. Through collaboration with these groups, many people have been contacted, facilitating the thinning of neighboring forest land and treatment of heavy concentrations of fuels across multiple land ownerships to strengthen community defense against large wildland fires.

The first collaborative public meeting was held in the community of Foresthill on February 17, 2016, to discuss project proposals that would address resiliency to insect infestation and reducing wildfire risk to local communities due to tree mortality from bark beetle attacks. Another public meeting was held on March 14, 2019. Suggestions and input provided by attendees were considered and evaluated along with other suggestions that were brought forward during the scoping period.

On April 3, 2019, staff from American River Ranger District (ARRD) hosted a field trip with stakeholders, including U.S. Fish and Wildlife, Bureau of Land Management, Volcano Creek Logging, and Foresthill Firesafe Council to discuss the project and to obtain information on nearby landowner vegetation management activities.

On June 27, 2019, staff from ARRD met with the Tahoe National Forest heritage program manager, two representatives of the Colfax-Todd's Valley Consolidated Tribe and two representatives from United Auburn Indian Community. Fuels treatment options were discussed and there was general agreement about using hand treatment with burn piles built outside of cultural site boundaries.

On July 25, 2019, the District Ranger talked with Luana Dowling, Placer Fire Alliance, and Gary Kirk, Foresthill Firesafe Council, about the Michigan Bluff project and working together to coordinate actions on public and private lands.

On July 29, 2019, staff from ARRD met with Luana Dowling to discuss the Michigan Bluff Project, location of the proposed actions and location of nearby private land treatments. Coordination of the two projects' treatments and possible BLM treatments were also discussed, along with possible funding options.

This action was originally listed online as a proposal on the Tahoe National Forest Schedule of Proposed Actions April 4, 2019, and was updated periodically during the analysis. A legal notice was published in Grass Valley's *The Union* newspaper on April 8, 2019, inviting the public to comment during the 30-day scoping comment period. A four-page scoping letter, that included a map for the Michigan Bluff Community Protection Project, was sent to 190 individuals, landowners, agencies, organizations and Tribes on April 8, 2019. The scoping list is in the project file. A news release was sent out and appeared

in the Auburn Journal April 7, 2019. Seven comment letters were received in response to scoping and considered as displayed in Appendix C.

APPLICABLE CATEGORICAL EXCLUSION

This action is categorically excluded from documentation in an environmental impact statement (EIS) or an environmental assessment (EA) using 2 categories as described below.

Wildfire Resilience Categorical Exclusion

Section 8204 of the Agriculture Act of 2014 (Public Law 113-79) (also referred to as Farm Bill) amended Title VI of the Healthy Forests Restoration Act of 2003 (HFRA) (16 U.S.C. 6591 et seq.) to add Sections 602 and 603 to address qualifying insect and disease infestations on NFS lands. The Secretary of the U.S. Department of Agriculture delegated authority to implement the provisions of the Farm Bill to the Chief of the Forest Service on March 6, 2014.

Section 602 provides, in part, the opportunity for Governors to request designation of areas in their State that are experiencing, or at risk of, an insect or disease epidemic, that would enable them to use the authority provided in the Act. Upon reviewing the States' requests, the Chief designated watersheds at the 6th level HUC. Information on the request and designation process, by state, can be found at http://www.fs.fed.us/farmbill/areadesignations.shtml.

The Consolidated Appropriations Act of 2018 (Public Law 115-171) amended Title VI of the Healthy Forests Restoration Act of 2003 (HFRA) (16 U.S.C. 6591 et seq.) to add Section 605. Section 605 establishes a categorical exclusion for hazardous fuels reduction projects in designated areas on NFS lands. A hazardous fuels reduction project that may be categorically excluded under this authority is a project that is designed to maximize the retention of old-growth and large trees, to the extent that the trees promote stands that are resilient to insects and disease, and reduce the risk or extent of, or increase the resilience to, wildfires (HFRA, Section 605(b)(1)(A)).

The Wildfire Resilience categorical exclusion may be used to carry out a hazardous fuels project in an insect and disease treatment area that was designated by the Secretary under HFRA section 602(b) by March 23, 2018. (HFRA, Section 605(c)(2)(C)). The applicable category of actions is identified in agency procedures Forest Service Handbook 1909.15, Chapter 30, Section 32.3 (Categories Established by Statute), #4, Wildfire Resilience.

The actions for this project are categorically excluded from documentation in an environmental impact statement (EIS) or an environmental assessment (EA). The Wildfire Resilience category is applicable for this project because:

1. The project is in an area designated in accordance with section 602(b) and (c) of the Healthy Forest Restoration Act. (20170308AddtlDesigRequest_Letter_R5_CA; 20170718Designation_Letter_R5_CA; 2017and2015ARRD_FarmBillDesignations and 2019_MichBluff_FarmBillDesigAreas.)

2. The entire project is in Condition Classes 2 or 3, Fire Regime Groups I, II, or III, and most is within the Wildland Urban Interface (WUI) as defined in HFRA. The Michigan Bluff WUI, Condition Class and Fire Regime maps generated by GIS in the project file were used to support this statement.

3. The project is not located in congressionally designated Wilderness and Wilderness Study Areas, in areas where the removal of vegetation is restricted or prohibited by statute or by Presidential proclamation, or in areas where the activities described above would be inconsistent with the Land and Resource Management Plan. Granite Chief Wilderness is at least 20 miles east of the project area. The Tahoe National Forest does not have any National Recreation Areas or Wilderness Study Areas. The Tahoe National Forest boundary GIS files were used to support this conclusion.

4. The project's number of acres treated does not exceed 3,000 acres (refer to Decision, footprint of 1,792 acres.)

5. The project does not include the establishment of permanent roads. Temporary roads will be constructed but will be removed no later than three years after the project is completed. Maintenance or repairs will be conducted on permanent roads that are already established in the project area (refer to Decision.)

6. Public notice and scoping was conducted. Refer to the Collaboration, Scoping and Public Involvement section.

7. The project was developed through a collaborative process that includes multiple interested persons representing diverse interests and is transparent and non-exclusive. Refer to the Collaboration, Scoping and Public Involvement section and public involvement files.

8. The best available scientific information was considered to maintain or restore ecological integrity, including maintaining or restoring the structure, function, composition and connectivity. The specialists identified information and cited literature in their reports. Specialist reports and literature, in the project file include information on: aquatic species, botanical species, cultural resources, vegetation, and wildlife. Danny Cluck, Entomologist, Forest Health Protection, provided scientific information on bark beetles for the Sugar Pine Reservoir area (FHP Report NE15-10) in 2015. This information is applicable to the Michigan Bluff area because portions of the Volcano ponderosa pine plantation, established after the 1960 Volcano Fire, occur in this area in addition to natural stands. This report is included in the project file as a regional perspective on the insect infestation.

9. The project maximizes the retention of old growth and large trees, as appropriate for the forest type, to the extent that the trees promote stands that are resilient to insect and disease through adherence to forest plan standards, management requirements, and treatment strategies that would (1) generally retain the largest trees with live crown ratios greater than 40 percent and free of damage and disease throughout the treatment units, and (2) radial thin around large full-crowned conifers to provide additional growing space, to create conditions for rapid diameter growth and to help ensure the survival of these relatively uncommon trees. These strategies, along with the 30 inch dbh limit, and other forest plan standards will maintain large and old trees in the project area.

Timber Stand and/or Wildlife Habitat Improvement Categorical Exclusion

A portion of the project, the Eldorado watershed, is not a designated watershed as provided for in Section 602 discussed previously; however, the rationale used for the Wildfire Resilience category also applies to this part of the project area and would provide additional wildfire resilience coverage for the town of Michigan Bluff by reducing fire hazards and fuel build-up. The Eldorado watershed has 122 acres (of the 925 acres) of commercial thinning with associated fuel treatments and 153 acres (of the 523 acres) of fuels treatments. Approximately 36 acres of roadside fuel breaks and 68 acres of roadside hazard tree actions overlap the thinning and fuels treatments. The Eldorado watershed portion of the project will be categorically excluded using 36 CFR 220.6(e)(6) "Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than 1 mile of low standard road construction." This category is applicable because it is similar to two examples: (ii) Thinning or brush control to improve growth or to reduce fire hazard including the opening of an existing road to a dense timber stand; and (iv) Prescribed burning to reduce natural fuel build-up and improve plant vigor.

As stated in 36 CFR 220.6(b), *the mere presence of one or more of the resource conditions does not preclude use of a categorical exclusion (CE). It is the existence of a cause-effect relationship between a proposed action and the potential effect on these resource conditions and if such a relationship exists, the degree of the potential effect of a proposed action on these resource conditions that determine whether extraordinary circumstances exist.* These two categories are applicable because the evidence presented in the project record and briefly described in each resource condition below, demonstrates that the actions in

this decision and the degree of the effects on the resource conditions result in no extraordinary circumstances, therefore it does not warrant further analysis and documentation in an EA or EIS.

FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

National Forest Management Act

The National Forest Management Act of 1976 (NFMA) recognized the fundamental need to protect, and where appropriate improve, the quality of soil, water, and air resources. With respect to water and soils, NFMA requires that the Forest Service manage lands so as not to impair their water quality and long-term soil productivity. Further, activities must be monitored to ensure that productivity is protected. This law led to subsequent regulation and policy to execute the law at various levels of management.

The Forest Service Manual (FSM) provides agency guidance for protection of riparian areas. Directives for riparian area management are provided in FSM 2526, which provides that riparian areas shall be managed under the principle of multiple-use and sustained-yield, with emphasis on protection and improvement of soil, water, and vegetation. Directives for water-quality management are provided in FSM 2532, which provides that BMPs will be applied to all management activities.

The NFMA requires that projects and activities be consistent with the governing Forest Plan (16 USC 1604(i)). The *Tahoe National Forest Land and Resource Management Plan* (USDA 1990) as amended, by the *Sierra Nevada Forest Plan Amendment Record of Decision* (SNFPA ROD) (USDA 2004) is collectively referred to as the Forest Plan that establishes management direction for the Tahoe National Forest. This management direction is achieved through the establishment of Forest Plan goals and objectives, standards and guidelines, and Management Area (MA) goals. This project is consistent with all applicable Forest Plan forest-wide standards and guidelines. Harvest activities will occur within Forest Plan management areas 90, 98, 99, and 103 which are suitable for timber production and allow for commercial timber harvest. Proposed activities are also consistent with the land allocation direction in the 2004 SNFPA ROD. The resource reports in the project file provide further discussion regarding consistency with applicable standards and laws.

The minimum specific management requirements to be met in carrying out projects and activities for the NFS are set forth in this NFMA section. Under 16 U.S.C. 1604 (g)(3)(E), a Responsible Official may authorize project and activity decisions on NFS lands to harvest timber only where:

1. Soil, slope, or other watershed conditions will not be irreversibly damaged;

Implementation of the proposed action would adhere to Best Management Practices for Protecting Water Quality and Forest Plan standards and guidelines (including Riparian Conservation Area guidelines) for protecting soil and water resources. Requirements for maintaining soil cover and protecting streams would be followed. BMPs and Riparian Conservation Area (RCA) Guidelines for the Michigan Bluff Project are included in the management requirements.

2. There is assurance that such lands can be adequately restocked within five years after harvest;

The areas treated in the Michigan Bluff Project would remain adequately stocked following thinning and follow-up fuels treatments. In addition, the project includes approximately 100 acres of reforestation.

3. Protection is provided for streams, stream banks, shorelines, lakes, wetlands, and other bodies of water from detrimental changes in water temperatures, blockages of water courses, and deposits of sediment, where harvests are likely to seriously and adversely affect water conditions or fish habitat;

Management requirements incorporated into the proposed action are designed to reduce the risk of accelerated erosion and sedimentation due to thinning and fuels treatment activities. These requirements follow BMPs for Protecting Water Quality and the Forest Plan standards and guidelines for protecting soil

and water resources are the primary measures for preventing and mitigating impacts from nonpoint source water pollution, such as fine sediment and changes in water temperature.

4. The harvesting system to be used is not selected primarily because it will give the greatest dollar return or the greatest unit output of timber.

Harvest system selection was based on resource protection rather than economics. Steeper slopes (those generally over 35 percent) are proposed for aerial yarding to protect soil productivity and water quality. Ground based harvesting is less expensive and allows treatments to be more economical compared to aerial yarding.

A Responsible Official may authorize project and activity decisions on NFS lands using clearcutting, seed tree cutting, shelterwood cutting, and other cuts designed to regenerate an even-aged stand of timber as a cutting method. None of the treatments proposed for the Michigan Bluff Project are designed to regenerate even-aged stands of timber.

Management Indicator Species

A management indicator species report was prepared for this project to consider project-related effects to various habitat types and associated species. The report described the following habitats that occur in the project area: shrubland, oak-associated hardwoods and hardwood/conifer, early seral coniferous forest, mid-seral coniferous forest, late seral open canopy coniferous forest, late seral closed canopy coniferous forest, and snags in green forest. The project would affect various components of these habitats but would not result in substantial effects on the distribution or abundance of the habitats or the associated species.

Endangered Species Act

A Biological Assessment was prepared in accordance with Forest Service Manual (FSM) direction 2672.24 and meets legal requirements set forth under Section 7 of the Endangered Species Act of 1973, as amended, and implementing regulations [19 U.S.C. 1536 (c), 50 CFR 402.12 (f) and 402.14 (c)].The USFWS was contacted for a current species list and staff from the Sacramento office were taken to view treatment areas on two occasions. The BA for California red-legged frog and Layne's Butterweed was submitted to the USFWS on July 1, 2019, as required under formal consultation.

Migratory Bird Treaty Act

Direction for integrating migratory bird conservation into forest management and planning includes the January 2000 USDA Forest Service (FS) Landbird Conservation Strategic Plan, the Partners in Flight (PIF) Landbird Conservation Plans, the 2001 Executive Order (EO)13186, and the 2017 Department of Interior Solicitor's Opinion M-37050. In 2008, *a Memorandum of Understanding between the USDA Forest Service and the USDI Fish and Wildlife Service to Promote the Conservation of Migratory Birds* was signed. The intent of the MOU is to strengthen migratory bird conservation through enhanced collaboration and cooperation between the Forest Service and the Fish and Wildlife Service as well as other federal, state, tribal and local governments. Within the National Forests, conservation of migratory birds focuses on providing a diversity of habitat conditions at multiple spatial scales and ensuring that bird conservation is addressed when planning for land management activities.

Effects to migratory birds were considered in the development and design of the Michigan Bluff Project and described generally in a Migratory Landbird Conservation Report. Specific effects to sensitive bird species and species associated with particular habitat types were also described in a Biological Evaluation and the Management Indicator Species report.

The project could result in temporary adverse effects to individual birds, due to disturbance. However, treatments would not all occur concurrently or result in uniform habitat conditions, and would thus provide spatial, temporal, and conditional diversity to provide for a variety of species over time. The treatments would likely benefit species as a whole by maintaining and enhancing diversity and increasing

resilience of forested habitats to stressors such as drought and fire. Although shrub habitat would be targeted for removal, it is generally well-represented throughout the landscape, in part due to steep river canyons and associated large recent wildfires. Shrub removal would be temporary, and would likely recover quickly unless maintained.

Because effects to migratory landbird habitats are minor, the proposed action is not expected to substantially contribute to existing cumulative effects to migratory landbirds associated with ongoing recreation, habitat management, mining, and other activities.

California State Water Quality Standards and Clean Water Act

This project complies with the Clean Water Act through use of BMPs designed to minimize or prevent the discharge of both point and non-point source pollutants from Forest roads, developments and activities. Under the Clean Water Act regulations, the Forest Service is required to obtain permits from the California Regional Water Quality Control Board (RWQCB). At this time, the Forest Service is working with the RWQCB to secure the appropriate permit(s) for this project.

The Regional Water Quality Control Board, Central Valley Region (CVRWQCB), on June 9, 2017, adopted Order No. R5-2017-061which provides waste discharge requirements for timber management activities on U.S. Forest Service (USFS) lands within the Central Valley Region. This project complies with all the "Eligibility Criteria" specified in the Order.

Clean Air Act

Implementation of this decision will generate nominal amounts of air pollutants as a result of equipment operation and does not threaten a violation of the Clean Air Act.

National Historic Preservation Act

This project complies with the National Historic Preservation Act of 1966, as amended and it's implementing regulations 36 CFR 800. A records search and cultural resource inventory have been completed for the Michigan Bluff Community Protection Project under provisions of *Amendment 1 to the Programmatic Agreement Among the U.S.D.A. Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding The Process for Compliance With Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region* (Regional PA 2018).

Environmental Justice Executive Order

On February 11, 1994, President Clinton signed Executive Order 12898 requiring each Federal agency to achieve environmental justice as part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies and activities on minority and low-income populations. The transparent, non-exclusive collaborative process used to develop this project, as well as consultation with tribes, ensured fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. No environmental justice issues were identified for this project as it is not expected to lead to disproportionately high and adverse impacts on minority or low-income populations.

ADMINISTRATIVE REVIEW AND IMPLEMENTATION DATE

Decisions that are categorically excluded from documentation in an Environmental Assessment (EA) or Environmental Impact Statement (EIS) are not subject to an administrative review process (pre-decisional objection process) (Agriculture Act of 2014, Subtitle A, Sec. 8006). This project is expected to be implemented immediately.

CONTACT

Additional information concerning this project can be found on the project webpage at: http://www.fs.usda.gov/projects/tahoe/landmanagement/projects.

For additional information concerning this decision, contact: Karen Walden, District NEPA Coordinator, American River Ranger District, 22830 Foresthill Road, Foresthill, CA 95631, (530) 478-6254.

REFERENCES

USFS. USDA Forest Service. 1990. Tahoe National Forest Land and Resource Management Plan. Tahoe National Forest, Nevada City, CA.

USFS. USDA Forest Service. 2004. Sierra Nevada Forest Plan Amendment Final Supplemental Environmental Impact Statement, Record of Decision. USDA Forest Service, Pacific Southwest Region. Vallejo, California. 72p.

USFS. USDA Forest Service 2012. Hazard Tree Guidelines for Forest Service Facilities and Roads in the Pacific Southwest Region.

USFS. USDA Forest Service 2019a. Biological Evaluation of Birds, Mammals, Amphibians, Reptiles, Fish and Invertebrates.

USFS. USDA Forest Service 2019b. Biological Evaluation of Botanical Species, including plants and fungi.

USFS. USDA Forest Service 2019c. Biological Assessment for Federally Listed Plant and Animal Species at Michigan Bluff.

Regional PA 2018. *Amendment 1 to the Programmatic Agreement Among the U.S.D.A. Forest Service, Pacific Southwest Region (Region 5), California State Historic Preservation Officer, Nevada State Historic Preservation Officer, and the Advisory Council on Historic Preservation Regarding The Process for Compliance With Section 106 of the National Historic Preservation Act for Management of Historic Properties by the National Forests of the Pacific Southwest Region*.

USFWS. USDI Fish and Wildlife Service. 2018. Formal Consultation on the Proposed Michigan Bluff Community Protection Project. October 11, 2019.

Danny Cluck, Entomologist, Forest Health Protection, provided scientific information on bark beetles for the Sugar Pine Reservoir area (FHP Report NE15-10) in 2015.

R2019051700016 Michigan Bluff Project Archaeological Inventory, C. Anderson, 2019

SIGNATURE AND DATE

Approved by:

10.27.19

Eli Ilano
Forest Supervisor
Responsible Official

Date

APPENDIX A: MANAGEMENT REQUIREMENTS

My decision includes implementation of the following management requirements. Management requirements are designed to meet requirements in the Forest Plan or reduce or prevent potential adverse effects associated with the proposed activities.

Air Quality

AQ1: Complete a site and project specific smoke management plan (SMP). Submit it for approval by the Placer County Air Pollution Control District (PCAPCD) prior to burning. Prescribed fire is subject to consultation and permit with the PCAPCD.

AQ2: Abate dust caused by commercial vehicle traffic on native and aggregate surfaced roads. Use water or dust palliatives such as lignin sulfonate or magnesium chloride to reduce the need for water. All water sources must be approved in advance of use by the project administrator.

Aquatic Wildlife

AW1: If a sensitive or listed amphibian or reptile is sighted within the project area, inform a Forest Service aquatic biologist of the sighting immediately. If determined necessary, the USFWS will be notified of additional avoidance and protection measures that may be developed and implemented based on the species, nature of work required, and site-specific conditions.

AW2: To the extent feasible, Sugar Pine Reservoir would be used for water drafting purposes. The following actions would be taken prior to use of other water drafting locations:

- Consult with the Forest Service aquatic biologist to obtain approval for use of the additional water drafting locations and to determine whether the location represents suitable habitat for sensitive aquatic species (SNFPA Standard and Guideline 92) (USDA 2004).
- If required by the District Aquatic Biologist, conduct surveys for sensitive aquatic species and submit survey results to the Aquatic Biologist. Surveys will be conducted by USFS approved staff who are experienced with the species in question. If necessary, avoidance and protection measures would be developed in consultation with resource agencies based on the species and site-specific conditions and implemented.

AW3: Use water drafting devices with 2-mm or smaller screening and place hose intake into bucket in the deepest part of the pool. Use a low velocity water pump and do not pump ponds to low levels beyond which they cannot recover quickly (approximately one hour) (Standard and Guideline 110)(USDA 2004).

AW4: For fish-bearing streams, the water drafting rate should not exceed 350 gallons per minute (gpm) for streamflow greater than or equal to 4 cubic feet per second (cfs) nor exceed 20 percent of surface flows for streamflow less than 4 cfs. For non-fish-bearing streams, the drafting rate should not exceed 350 gpm for streamflow greater than or equal to 2 cfs, nor exceed 50 percent of surface flows. Water drafting should cease when bypass surface flows drop below 1.5 cfs on fish-bearing streams and 10 gpm on non-fish-bearing streams (USFS Region 5 BMP 2.5).

AW5: A limited operation period (LOP) restricting activities within one mile of California red-legged frog occupied or potential breeding habitat will be implemented from the first fall frontal system depositing a minimum of 0.25 inch of rain on or near October 15th through April 15th. During the LOP any rain event that deposits a minimum of a 0.25 inch of precipitation will trigger a halt to burning and prescribed fire activities may only resume after a 72-hour drying period.

AW6: Limited Operating Period. During the wet season (defined as starting with the first frontal rain system that deposits a minimum of 0.25 inch of rain after October 15 and ending April 15), do not perform mechanical operations within 300 feet of suitable habitat for California red-legged frog (e.g., intermittent or perennial streams, ponds, springs, and seeps).

AW7: All ignition buffers described in Table 1 are increased to 300 feet (0.05 miles) for Burn Unit 7 which is the burn unit closest to the Big Gun Conservation Bank encompassing known populations of CRLF and breeding ponds.

Table 1. Riparian Conservation Areas Width and Burn Buffer Designations for the Michigan Bluff Project.

Stream Type	Width of the Riparian Conservation Area	Fire Ignition Exclusion Zone
Perennial Streams	300 feet each side, measured from bank-full edge	100 feet on each side of the stream, measured from the channel edge
Seasonal Flowing Streams (classified as intermittent)	150 feet each side, measured from bank-full edge	50 feet on each side of the stream, measured from the channel edge
Seasonally Flowing Streams (classified as ephemeral)	150 feet on each side of the stream, measured from the channel edge.	25 feet on each side of the stream, measured from the channel edge
Streams In Inner Gorge	Top of inner gorge	Top of inner gorge
Meadows, lakes, and springs	300 feet from edge of feature or riparian vegetation, whichever is greater	100 feet on each side of the stream, measured from the channel edge
Other hydrological or topographic depressions without a defined channel	RCA width and protection measures determined through project level analysis.	Fire buffer width and protection measures determined through consultation with Aquatic Biologist.

AW8: If any California red-legged frog is found during the pre-activity survey (see AW11) or at any time during the Project, vacate the immediate area and leave the frog alone. No activity will occur in that area until such time as the frog has left the area on its own or been moved to safety as described below. Detections of California red-legged frogs prior to or during project implementation will be reported to the USFS Aquatic Biologist for development of recommendations regarding how to protect a discovered California red-legged frog.

If California red-legged frogs are encountered in the project area during project activities, each frog encounter will be treated on a case-by-case basis, but the general procedure is as follows:

(1) Leave the non-injured California red-legged frog alone if it is not in danger, or

(2) Move the animal to a nearby safe location if it is in danger.

These two actions are further described as follows:

a) If a California red-legged frog is encountered within a work area, all activities in the surrounding area that have the potential to result in the disturbance, injury, or death of the individual will be temporarily stopped by the appropriate USFS staff. Then, the situation shall be assessed by a USFS Aquatic Biologist to select a course of action that will minimize adverse effects on the individual.
b) If a California red-legged frog is not in danger, avoidance is the preferred option. For example, if a California red-legged frog is using refugia habitat adjacent to project activities but is not in harm's way, then the frog will be monitored but not relocated.
c) If a California red-legged frog is in danger due to project activities, it should be captured and moved to nearby suitable habitat where there is no potential for project-related adverse effects. Frogs should not be moved substantial distances (e.g., no more than one mile) from where they are found without consulting the Service.
d) Only a USFS or Service-approved biologist may capture a California red-legged frog. Nets or bare hands may be used to capture the animals. Soaps, oils, creams, lotions, repellents, or solvents of any sort cannot be used on hands within two hours before or during periods when the biologist is capturing and relocating individuals. If the animal is held for any length of time in captivity, it shall be kept in a cool, dark, moist environment with proper airflow, such as a clean and disinfected bucket or plastic container with a damp sponge. Containers used for holding or

transporting California red-legged frogs shall not contain any standing water, objects, or chemicals that may injure or kill a California red-legged frog.

e) The California red-legged frog should be obse1-ved for at least five minutes frorn the time of its release to ensure it is not vulnerable to predation or other environmental factors.

All encounters of individuals will be documented and reported immediately to a USFS Aquatic Biologist. Reporting will include GPS, photos of individual and habitat, condition of individual and techniques used to avoid impact.

AW9: Limit direct application of borate compound to stumps within 25 feet of perennial or intermittent streams, meadows, and special aquatic features.

AW10: Prior to beginning to proposed project, contracted workers will receive environmental awareness training regarding special status species and sensitive habitats in the area. If new personnel are added, they must receive the mandatory training before starting work. As part of the training, an environmental awareness handout will be provided to all personnel that describes and illustrates California red-legged frog habitat to be avoided during project activities. Training will include a description of the California red-legged frog and its critical habitat, the specific measures being implemented to conserve the species, and the boundaries of the sampling area. Brochures, books, and briefings may be used during the training session, provided that a qualified person (e.g., USFS Aquatic Biologist) is on hand to answer questions.

AW11: Prior to conducting project activities within 300 feet of known occupied California red-legged frog aquatic habitat, a pre-activity visual survey for California red-legged frogs will be conducted, unless deemed unnecessary by the USFS Aquatic Biologist due to lack of potential for the activities to take California red-legged frogs. Examples of activities that are likely to require pre-activity surveys include construction of temporary roads, skidding trails, temporary landings, pile burning and prescribed burning during the breeding season.

- Surveys will be conducted by a USFS- or USFS-approved biologist who has experience identifying California red-legged frogs and suitable habitat for the species.
- Surveys will be conducted no more than one week prior to the initiation of project activities at the work site in question.

Botanical Resources

BR1: Layne's butterweed: There is one known federally-listed Layne's butterweed (*Packera laynae*) occurrence (PALA41TNF01). In the Layne's butterweed occurrence (unit LB1):

a) These areas will be flagged in the field and identified on project and contractor maps prior to project implementation.
b) Follow the rare plant treatment prescription described above (refer to Layne's Butterweed Treatment Units). Any changes to treatment prescription will be agreed upon by District Botanist and Fuels Officer and disclosed to USFWS before implementation.
c) In roadside mastication areas, exclude (do not masticate) in known clusters of Layne's butterweed. These areas will be flagged prior to implementation.
d) Do not cause ground disturbance.
e) Do not utilize heavy equipment (except on road surface)
f) Do not stage equipment, vehicles or personnel.
g) A qualified Forest Service botanist will be present during pre-treatment and burn operations.

BR2: Flag and avoid: There are two known Sierra bluegrass (*Poa sierrae*) occurrences (POSI6TNF38,39), 4 occurrences of Sanborn's onion (*Allium sanbornii var. sanbornii*) (ALSASTNF23W, ALSASTNF05AW,B,C,D) and one occurrence of red hill soap plant (*Chlorogalium grandiflorum*) (CHRG3TNF05GW) that intersect with project units.

a) These areas will be flagged in the field and identified on project/contractor maps
b) Avoid occurrence during all operations.

c) Exception to operational avoidance and flagging in large ALSASTNF05AW/BW occurrence in LB1 unit.

BR3: Van Zuuk's morning glory: There are 2 VanZuuk's morning glory (*Calystegia vanzuukii*) occurrences (CAVATNF01AW and CAVATNF01BW) within project units on serpentine habitat. This area will be identified on project maps and provided to contractors.

a) Due to the large area and extent CAVATNF01AW/BW will not be flagged in the field, unless requested by implementation staff or contractor.
b) Limit ground disturbance, mastication, and off-road vehicle use to 50% of occurrence
c) Fell trees away from occurrence where feasible
d) Do not pile slash, deck logs or stage equipment or personnel in occurrence.

BR4: Undetected Occurrences: Any additional TES or TNF Watch list botanical species or other botanical resources discovered prior to or during implementation should be flagged and avoided completely until it can be assessed for impacts by District Botanist.

Cultural Resources

CR1: Management of Sites: Protect cultural resource sites designated on the ground with flagging and identified on maps provided by the cultural resource specialist. If any new cultural resources are discovered during project implementation, cease operations in the area of new discovery until District Archaeologist is notified and adequate protection measures are agreed upon. Local Native American Tribes shall be notified of any new prehistoric cultural resources discovered during project implementation. No tracked equipment shall be operated off of existing NFS roads and trails within cultural resource site boundaries. No mechanized piling of vegetation shall be done within site boundaries. Rubber tired equipment may be allowed within specific areas of sites, only with written approval of the Heritage Program Manager (HPM) or Designated Heritage Preservation Specialist (DHPS). Cultural resource sites shall not be used as staging areas or for parking vehicles and equipment.

CR2: Project administrator and/or DHPS will review all affected sites with contractors prior to the start of activities in the vicinity. Interested Tribes will be notified of planned activities in prehistoric sites prior to start of activities in the vicinity.

CR3: Management of linear features: Existing breaches may be used to cross linear features. New breaches may be designated by the HPM/DHPS. Trees should be directionally felled parallel to or away from linear features. Isolated trees inside of linear features may be felled on a case-by-case basis and with on-the-ground approval of the HPM/DHPS, only if removal benefits the feature.

CR4: Hand Cutting and hand piling within sites: Hand cutting of vegetation less than 10 inches in diameter is permissible within site boundaries. Hand piles may be constructed and burned within site boundaries only in specific areas designated by the HPM/DHPS.

CR5: Felling and removal of trees greater than 10 inches DBH within sites: Implement on-site removal of trees greater than 10 inches DBH only upon written approval of the HPM/DHPS. All trees greater than 10 inches DBH should be directionally felled and fully suspended during removal from site. Removal of trees greater than 10 inches DBH would follow the guidelines established in the Regional PA 2018, which allow the use of rubber tire equipment, crane self-loaders or helicopters.

CR6: Prescribed fire within sites: Cultural resource sites shall be protected from adverse effects from prescribed fire. The HPM/DHPS will determine which sites can be burned over. It is preferred that fire control lines stay outside of site perimeters. In cases where there is a large fuels buildup inside of a site, it may be necessary to burn within the site and/or construct fire control lines within the site perimeters. The DHPS would provide on-site direction when such burning or fire control lines are necessary.

CR7: System road work within sites: Maintenance and repairs of NFS roads may be conducted within site boundaries within the existing road prism. Adjacent or surrounding cultural resource site areas will be

flagged for avoidance during road work implementation. Installation of road closures or road obliteration may be conducted within the existing road prism only upon written approval of the HPM/DHPS.

CR8: Contractor Camps: Proposed contractor camps outside of previously surveyed areas and treatment areas need to be cleared with a DHPS and recreation specialist prior to use.

CR9: Tree Planting: No tree planting shall occur within cultural resource sites. Keep all planting at least 6 feet away from linear features.

CR10: Additional Survey: Prior to implementation, additional surveys for cultural resources are required for fire lines and areas of proposed ground disturbance (such as landings or staging areas) outside of planned treatment units.

CR11: Non-System Road Work within Sites: Reconstruction or obliteration of non-system roads and trails shall not occur within cultural resource sites without written approval of the HPM/DHPS. Adjacent cultural resource sites will be flagged for avoidance during road work implementation.

CR12: Should inadvertent effects to or unanticipated discoveries of human remains be made on Region 5 lands, the County Coroner (California Health and Safety Code 7050.5(b)) or Sheriff shall be notified immediately. If the remains are determined to be Native American or if Native American (Indian) cultural items pursuant to Native American Graves Protection and Repatriation Act of 1990 (NAGPRA) are uncovered, the provisions of NAGPRA and its regulations at 43 CFR 10 and ARPA at 43 CFR 7 shall be followed on federal lands. All work in the vicinity should cease until HPM is notified and adequate protection measures are agreed upon. Local Native American Tribes shall be notified of any human remains discovered during project implementation.

Fire and Fuels

FF1: Piles should be free of dirt and compact, but not artificially compressed. Do not drive equipment onto piles during construction.

FF2: Cover at least two 100 square foot segments of each large landing pile with weatherproof sheeting to facilitate ignition in wet weather. Cover at least one 100 square foot segment of each machine pile with weatherproof sheeting to facilitate ignition during all seasons. Cover one 9 square foot segment of each hand pile with weatherproof sheeting to facilitate ignition during all seasons. Covers must be well-secured and accessible.

FF3: Apply pre-treatments to reduce risk of damage to very large trees that could include raking debris from the tree boles, hand cutting adjacent small ladder fuels, and hand piling.

Invasive Plants

IP1: Equipment Cleaning

a) All equipment and vehicles (Forest Service and contracted) operating off-road must be free of invasive plant material before moving into the project area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter the project area.
b) All equipment and vehicles utilized in infested areas must be cleaned before traveling off-pavement to other NFS lands. This is applicable for every trip in infested areas.

IP2: Invasive Plant Avoidance Areas. Avoid known invasive plant infestations (except invasive plant treatment units) during implementation, including staging of equipment and decking logs. Infestations will be flagged in the field and identified on project/contractor maps.

IP3: Invasive Plant Treatment. Follow the invasive plant treatment prescription within the invasive plant treatment unit.

Outside invasive plant treatment unit, prior to implementation, treat the following infestations in accordance with Tahoe National Forest recommended treatment methods: barbed goatgrass (*Aegilops triuncialis*), yellow star-thistle (*Centaurea solsititialis*), spotted knapweed (*Centaurea stoebe ssp. micranthos*), scotch broom (*Cytisus scoparius*) and medusahead (*Elymus caput medusae*). Coordinate with USFS District Botanist at least 60 days prior to implementation to plan treatment.

IP4: Project-related disturbance. Minimize the amount of ground and vegetation disturbance. As necessary, reestablish vegetation on disturbed bare ground to reduce invasive species establishment; revegetation is especially important in staging areas.

IP5: Early Detection. Any additional infestations discovered prior to or during project implementation should be flagged and avoided. Report new infestations to District Botanist.

IP6: Post Project Monitoring. For projects involving ground disturbance or use of imported materials, notify the District Botanist after the project is completed, so that the project area can be monitored for invasive plants subsequent to project implementation (as funding allows).

Mining Sites

M1: If abandoned mines are found obtain a GPS point and photographs and provide this information to the Minerals Officer. Consult with Minerals Officer for currently known mining operations.

M2: Identify hazards, such as adits and chemicals, on mining sites prior to implementation.

Recreation

REC1: Protect all improvements including trails, roads, campground facilities, water system features, signs, barriers, or bridges etc. If any barriers (including boulders or fencing) or improvements are removed to facilitate activities, they must be re-installed in the same location and manner immediately following vegetation management operations. If any improvements are damaged or removed by project activities, they must be replaced in-kind and reinstalled in the same location and manner, to meet Forest Service Standards. Coordinate replacement or repair with the District Recreation Officer or Public Services Officer.

REC2: Whenever possible, keep all roads, trails, trailheads, and campgrounds open for public use. Establish detours where needed and feasible, and issue Forest Closure Order for roads, trails, and other recreation sites if necessary to protect public safety. The Western States Trail will remain open on weekends and holidays (i.e., Memorial Day).

REC3: Provide for public safety and education by posting notices to inform public of project activities (i.e., thinning, burning). Posted notices should be at, but not limited to, trailheads, campgrounds and the District Office. Notices should be posted on TNF website at least two weeks prior to treatments. Keep information current.

REC4: Within developed recreation sites, including Chicken Hawk Staging Area, recreation staff should be involved in project implementation including tree marking, and participate in on-the-ground pre-operational meetings. Leave a vegetated buffer between the roads (3004-6, 3004-6-2, and 3001-8) and Chicken Hawk Staging Area to prevent illegal off-route travel. Fencing may be installed as an alternative to a vegetated buffer in consultation with Public Services Staff.

REC5: To the extent feasible, fall trees away from the Western States Trail and Tevis Cup Trail and event routes. No skid trails or temp roads will be authorized within, along or across the Western States Trail or the Chicken Hawk connector trail. Any unavoidable damage to the trail shall be repaired and the trail restored to its original condition. Along the Western States Trail, minimize visibility of skid trails, temporary roads, and landings. Identify the Western States Trail (WST) on contract maps.

REC6: A limited operating period shall be designated for operations that may impact recreational events on the Western States Trail and Tevis Cup Trail and associated roads. Event dates would be announced each year during the pre-operations meeting.

REC7: Develop an implementation plan in consultation with Recreation Officer to schedule project activities to minimize disruption of recreation facility and trail use by the public. The plan should include limited operating periods, including holidays and peak season weekends, and potential temporary site closures.

REC8: Locate new landings away from developed and dispersed recreation areas (i.e., staging areas) where feasible.

REC9: Completely remove all project related woody material from recreation sites, including logs, branches, slash, etc., in a manner that minimizes disturbance to soil and natural forest duff layers, rehabilitate soil disturbance to natural existing condition. Use local leaf litter and small woody debris to disguise project-related ground disturbance within sight of roads, trails and within campgrounds.

REC10: Identify vegetation to be retained in recreation sites to maintain the user experience consistent with fuel reduction objectives. Protect non-activity vegetation within recreation sites and keep vegetative screening between trail switchbacks during management activities.

REC11: In areas within all developed recreation sites (campgrounds, day use sites, trailheads etc.), flush cut all stumps, unless stumps are designated for grinding.

REC12: Recreation facilities shall not be used by contractors or project personnel for camping, parking, staging, trash disposal, or restrooms other than as necessary for recreation site treatments unless agreed in advance by the District Ranger or Public Services Officer.

REC13: Locate all marking paint outside of the view shed of WST users in both directions. This includes all boundary or leave tree marks.

REC14: Barricade, with local and natural material, all skid trails that directly intersect a drivable forest road to deter off-road and unapproved use of skid trails for motorized vehicles and new dispersed use sites.

REC15: Protect special use permitted improvements. Consult Public Services Officer prior to any mechanical activities on or immediately adjacent to special use permits.

REC16: Notify adjacent private property owners or residents of the treatment activities a minimum of one week prior to activities whenever possible.

REC17: Avoid placing landings and other ‘centralized’ project activities near private property.

Soils

S1: Operate mechanical equipment when soil moisture is less than 20 percent by weight. Use Forest Service standard contract provision Erosion Prevention and Control to suspend operations due to the rainy season, high water, and other adverse operating conditions, to protect resources (BMP 1-5). If Forest Service soil scientist or hydrologist is unavailable to sample soil, contract administrators shall use ball method to test for operability as described in Table 2 below. Follow this protocol by digging a small pit and sampling 4 to 6 inches below the mineral soil surface (below the surface litter). Collect enough soil to form a 1 to 2 inch ball by molding with hand pressure. Pick out excessive rock fragments and squeeze with 6 directional squeezes. If a ball is formed that holds together under repeated tosses (1 to 2 feet into the air) then the soil is too wet for equipment operation.

Table 2. Protocol for determining machinery operability on soils based on soil moisture

Soil Moisture % Increases Downward	Coarse Soils (Loamy sands, fine sandy loam, very fine sands, coarse sands)	Light Soils (Fine sandy loams, sandy loams, very fine sandy loam)	Medium Soils (less than 35% clay) Sandy clay loam, loam, silt loam, sandy clay loam, clay loam)	Heavy Soils (greater than 35% clay) Clay loam, sandy clay, silty clay loam, clay)
Dry soils	Dry, loose, single grained flows thru fingers. OA[1]	Dry, loose, flows thru fingers. OA	Powdery, dry, sometimes slightly crusted but breaks down into powdery conditions. OA	Hard, baked, cracked sometimes has loose crumbs on surface. OA
Slightly Moist soil	Still appears dry, will not form a ball with pressure. OA	Still appears to be dry; will not form a ball. OA	Somewhat crumbly, but will hold together from pressure. OLGP[1]	Somewhat pliable; will form ball under pressure. At plastic limit. NO[1]
Moist soil	Still appears dry, will not form a ball with pressure. OA	Tends to ball under pressure but seldom will hold together. OLGP	Forms a ball and is very pliable, sticks readily if high in clay. NO	Easily ribbons out between fingers, has a slick feeling. At plastic limit. NO
Very moist soil	Tends to stick together slightly, sometimes forms a very weak ball. OLGP	Forms a weak ball breaks easily, will not stick. Plastic limit or nonplastic. NO	Forms a ball and is very pliable, sticks readily if high in clay. Exceeds plastic limit. NO	Easily ribbons out between fingers, has a slick feeling. Exceeds plastic limit. NO
Wet soils	Upon squeezing, free water may appear. Wet outline is left on hand. Nonplastic. NO	Upon squeezing free water may appear. Wet outline left on hand. NO	Can squeeze out free water. Wet outline left on hand. NO	Puddles and free water forms on surface. Wet outline left on hand. NO

[1]**OA**= Operable for all mechanical equipment; **OLGP** = Operable for low ground pressure masticators; **NO** = Not operable for mechanical equipment.

Off of designated skid trails, limit all equipment passes over the same piece of ground to reduce the potential for adverse soil compaction. Outside normal operating season (NOS) or during wet periods within the NOS, utilize the Tahoe National Forest Wet Weather Operations Guidelines.

S2: Restrict ground-based mechanical equipment to slopes generally less than 30 percent. Units 6, 7 and 8 have specific slope requirements with slopes identified on stand cards.

S3: Maintain at least 50 percent effective soil cover on slopes less than 35 percent (post activity condition), and at least 60 percent soil cover on slopes greater than 35 percent (Forest Plan Standard and Guideline 55).

S4: Decompact then apply at least 70 percent soil cover on temporary roads, unauthorized routes, and up to 0.5 acres of skid trail per landing as designated by FS personnel. Decompaction shall be accomplished with equipment such as a winged sub-soiler or other tilling device to a maximum depth of 24 inches so that the soil is lifted vertically and fractured laterally to alleviate detrimental compaction (where it occurs). Subsoiling depth can be reduced based on compaction depth and rock fragments following consultation with agency hydrologist or soil specialist. Tillage/sub-soiling will be completed 8 feet from the bole of larger trees so as not to impact root systems.

- Soil cover may consist of mulch, clearing or logging slash, stumps or other woody debris. Place and scatter soil cover uniformly on the top of the road corridor prior to winter precipitation as well as to discourage unauthorized use.
- On temporary roads with a constructed cut and fill slope, recontour road prism including all cut and fill slopes to natural ground contour. Equipment will not be permitted to operate outside the clearing limits (BMP 1-14, 1-17).

S5: Maintain at least 20 percent undisturbed forest duff and at least 3 tons of down wood greater than 3 inches in diameter following fuels treatments. Achieve this by coordinating with watershed specialist for survey of existing conditions pre-treatment and to review treatment prescriptions prior to implementation.

Use existing condition data to determine large wood retention levels for hand or machine pile treatments, and use existing duff levels to inform underburn prescriptions.

S6: Limit tractor piling to slopes less than 20 percent slope. Slopes between 20 to 30 percent may be considered with site specific analysis by a watershed specialist.

Follow these guidelines during machine piling to meet Forest Plan Standards for forest duff:

- Soils should be dry to 8 inches.
- No soil or minimal soil in piles.
- Minimize uprooting of shrubs.
- Keep "brush rake" out of the ground to obtain the objective of retaining the litter and duff

S7: If burn piles contain greater than 25 percent material greater than 9 inch diameter, burn when soils are moist or wetter.

Terrestrial Wildlife

TW1: For all mechanical thinning treatments, design projects to retain all live conifers 30 inches dbh or larger. Exceptions are allowed to meet needs for equipment operability or safety.

TW2: Retain old forest habitat connectivity by maintaining dominant and co-dominant trees that are at least 24 inches dbh and larger with at least 50% canopy cover within riparian buffers of perennial streams (100 feet on each side).

TW3: In PACs located in WUI threat zones, mechanical treatments are allowed where prescribed fire is not feasible and where avoiding PACs would significantly compromise the overall effectiveness of the landscape fire and fuels strategy. Mechanical treatments should be designed to maintain habitat structure and function of the PAC.

TW4: Mechanical treatments may be conducted in protected activity centers (PACs) located in WUI defense zones and, in some cases, threat zones, but are prohibited within a 500-foot radius buffer around a spotted owl activity center within the designated PAC.

TW5: Consistent with SNFPA Standard and Guideline 75 (USDA 2004), maintain a limited operating period (LOP), prohibiting mechanical treatments in areas outside the PAC but within approximately 0.25 mile of the California spotted owl activity center during the breeding season (March 1 through August 15), unless surveys confirm that California spotted owls are not nesting or the biologist determines that due to location, duration, or intensity, the LOP is unnecessary.

TW6: Consistent with SNFPA Standard and Guideline 76 (USDA 2004), maintain a limited operating period (LOP), prohibiting vegetation treatments in areas outside the PAC but within approximately 0.25 mile of the northern goshawk activity center during the breeding season (February 15 through September 15), unless surveys confirm that northern goshawks are not nesting or the biologist determines that due to location, duration, or intensity, the limited operating period is unnecessary.

TW7: The District wildlife biologist must be consulted prior to implementing any management activities within northern goshawk and California spotted owl PACs including hazard tree removal.

TW8: The District wildlife biologist would be notified if any active nests of raptors are observed in or adjacent to trees scheduled for removal. If determined necessary, avoidance and protection measures would be developed and implemented based on the species, nature of work required, and site-specific conditions.

TW9: If federally-listed or sensitive species are sighted in the project area, contact the District wildlife biologist immediately to report the sighting. If determined necessary, avoidance and protection measures would be developed and implemented based on the species, nature of work required, and site-specific conditions.

TW10: Retain riparian vegetation and hardwoods, such as oaks, alder, willow, and cottonwood. Some riparian and hardwood vegetation may be removed for operability or safety.

TW11: Where feasible, retain stands of berry-producing or less common native shrub species such as elderberry (*Sambucus*), redberry (*Vaccinium), Ceanothus*, coffeeberry (*Rhamnus*), dogwood (*Cornus*), and Sierra plum (*Prunus*). Retain manzanita (*Arctostaphylos*) and mountain whitethorn (*Ceanothus cordulata*) shrubs in patches where it would not compromise fuels management goals.

TW12: Consistent with Forest Plan management direction, retain at least four of the largest snags per acre larger than 15 inches dbh. Snag numbers can be averaged over 10 acres, i.e., in clumps to provide dense snag patches and facilitate other management objectives.

TW13: Within perennial stream riparian buffers retain large down woody debris for wildlife.

TW14: Do not locate log processing landings or temporary roads for fuel reduction operations in northern goshawk or California spotted owl PACs.

Vegetation

V1: All cut conifer stumps greater than 14 inches in diameter will be treated with a registered borate compound (FSM R5 Supplement 2300-92-1 modified by FSH R5 Supplement 3409.11-2010-1) to reduce the probability of infection by *Heterobasidion occidentale* and *H. irregular*, the causal agents of Heterobasidion root disease (formerly referred to as annosus root disease). Treat all cut conifer stumps greater than 3 inches in diameter in recreation areas with a registered borate compound.

Visual Resources

VR1: Edges of treatment units within view of Foresthill Divide Road and the WST should be horizontally feathered and naturally appearing.

VR2: Gates should meet Forest Service specifications and be painted green or brown to match other gates in the area.

VR3: Wherever possible, piles shall be a minimum of 300 feet from all residential property boundaries, and a minimum of 150 feet from Foresthill Divide Road and WST. Piles located close to these areas shall be prioritized for burning or any other pile eliminating treatment.

VR4: Within the immediate foreground (300 feet) of all residential property boundaries, and within the immediate foreground (150 feet) of Foresthill Divide Road, the WST, and the Chicken Hawk connector trail the following management requirements apply:

- Place tree markings in positions least visible to the public allowing for operational considerations.
- Cut stumps to 6 inches high where feasible considering safety, ground conditions, and obstacles.
- No new landings.

VR5: Along the Foresthill Road and WST maximize protection of non-affected timber and ground vegetation during tree removal operations and slash treatment.

Water

W1: Establish Riparian Conservation Areas (RCAs) for all aquatic features, as specified in Table 1 under aquatics.

W2: Establish a 100-foot “riparian buffer” zone along each side of perennial streams and special aquatic features, 50-foot “riparian buffer” along each side of intermittent streams and establish a 25-foot “riparian buffer” zone along each side of ephemeral streams. No ground-based equipment is allowed in riparian buffers unless required for approved skid trail or road crossings, or agreed to by a riparian specialist.

W3: A prescribed fire plan will be developed to retain effective soil cover, coarse woody debris, and standing snags throughout the RCA; however short-term reductions in these habitat features may occur as a result of prescribed fire operations.

W4: To minimize disturbance to riparian vegetation in RCAs as per Standard and Guideline 111 (USDA, Forest Service 2004), no direct ignition will be conducted within riparian buffers; however fire may back in to riparian buffers. No piling or pile burning would be conducted within the riparian buffer. Existing piles within the RCA (outside of the 100 foot buffer) can be ignited, but would, to the extent practicable, be ignited in a manner that allows organisms to flee from the pile (for example, light on the leeward side so that fire moves as a front through the pile).

W5: Do not apply borate compound within 25 feet of surface water, when rain is falling, or when rain is likely that day (i.e., National Weather Service forecasts 50 percent or greater chance).

W6: At water sources where overflow runoff from water trucks or storage tanks may enter a stream, effective erosion control devices and hardening shall be installed per Transportation Plan and National BMP WatUses-3 (USFS 2011).

W7: Leave one lane of travel at the Sugar Pine Boat Ramp open for recreation use during drafting from the reservoir.

W8: To the extent feasible, the amount of water drafted from Sugar Pine Reservoir (or other sources as approved by the Forest Service) will be documented and provided to the Forest Service Public Services Officer following each work season.

W9: All vehicles and heavy machinery shall be checked daily and shall be repaired as necessary to prevent leaks of petroleum products from entering RCAs or water. Machinery operators shall have petroleum spill kits and know how to effectively deploy the hazardous response materials/spill kits. Dispose of absorbent pads according to the Hazardous Response Plan (to be developed by the contractor and approved by the USFS). Any hazardous spill event into the water shall be immediately contained and reported to the Forest Service dispatch.

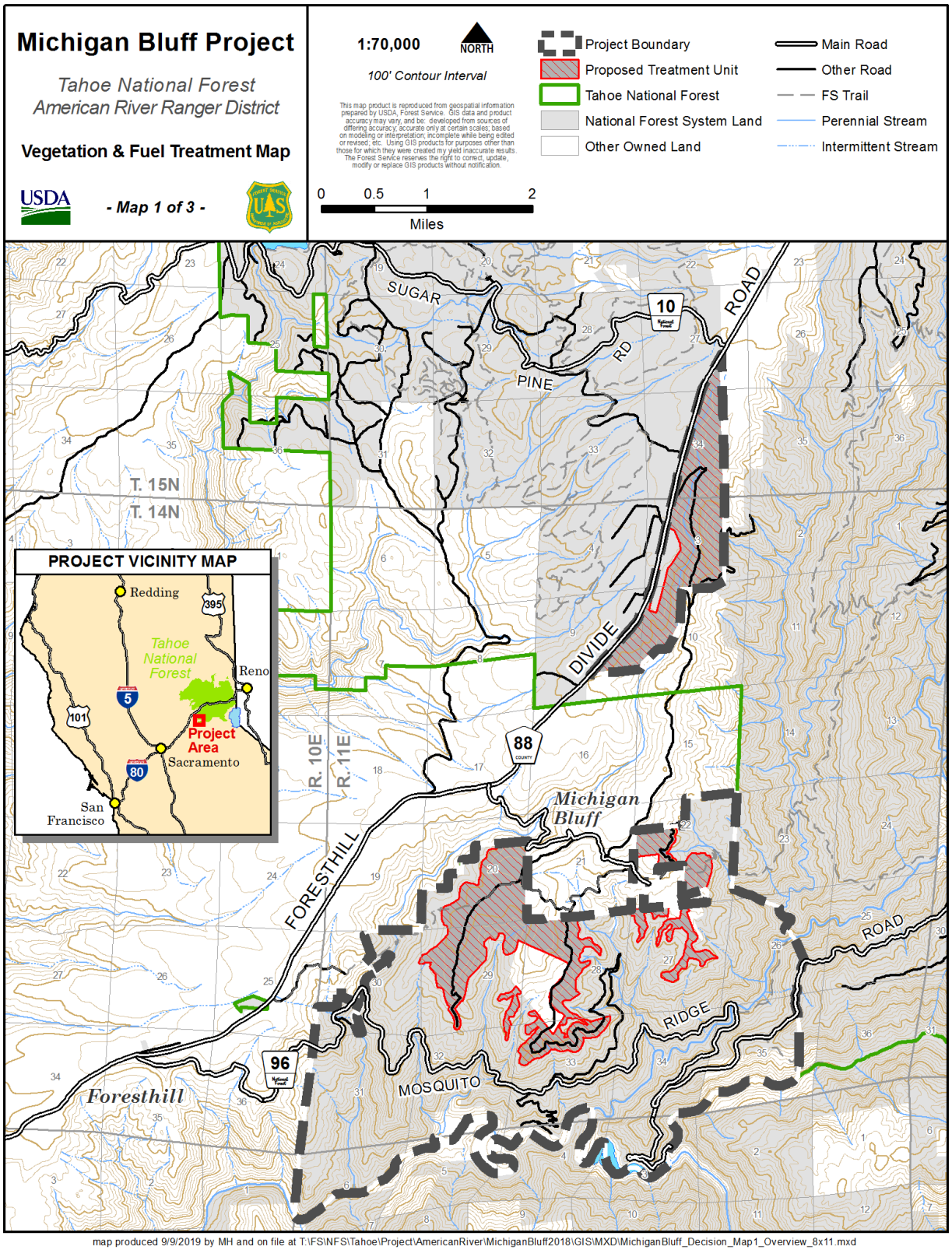
W10: Apply a 100-foot buffer for perennial channels and a 50-foot buffer for intermittent channels when using dust palliatives.

W11: Consult with the Forest Service aquatic biologist or hydrologist prior to using existing landings or constructing new landings or roads within RCAs.

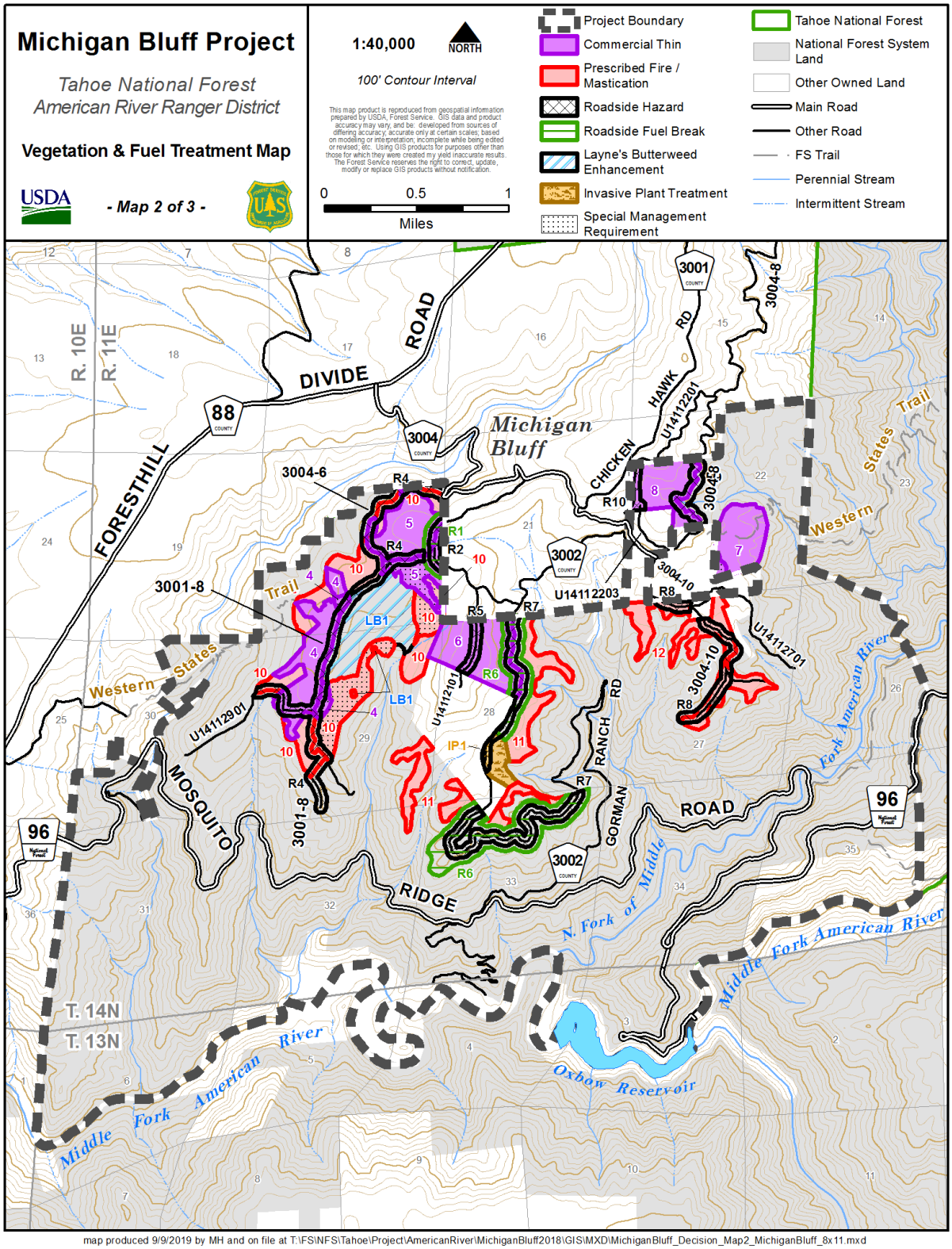
W12: Consult with the Forest Service hydrologist or aquatic biologist prior to constructing temporary roads across ephemeral or intermittent drainages.

W13: Water bars will be constructed on all fire lines per BMP 12.61.6.3 #1 (USDA, Forest Service 2011).

APPENDIX B MAP 1:

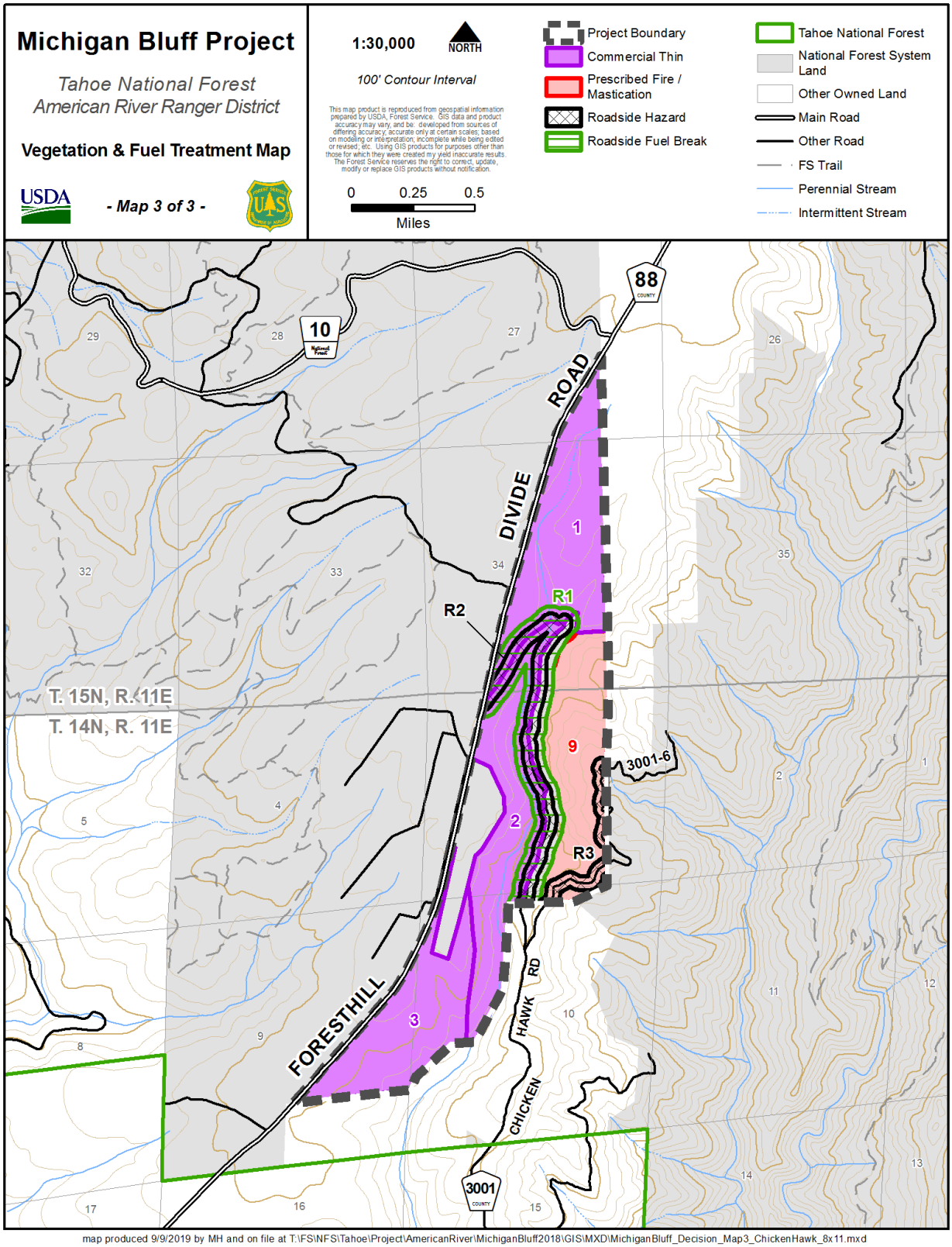


APPENDIX B MAP 2:



map produced 9/9/2019 by MH and on file at T:\FS\NFS\Tahoe\Project\AmericanRiver\MichiganBluff2018\GIS\MXD\MichiganBluff_Decision_Map2_MichiganBluff_8x11.mxd

APPENDIX B MAP 3;



map produced 9/9/2019 by MH and on file at T:\FS\NFS\Tahoe\Project\AmericanRiver\MichiganBluff2018\GIS\MXD\MichiganBluff_Decision_Map3_ChickenHawk_8x11.mxd

APPENDIX C: RESPONSES TO SCOPING COMMENTS

ID	COMMENT	RESPONSE
1	Plant more than ponderosa pine.	A variety of species are proposed for planting.
2	The 4.3 miles of roadside shaded fuel break should specify a basal area retained of about 40-60 square feet. No tree marking would be necessary. All of the trees less than 10” dbh and all of the brush would be removed; then thinned the remaining trees to about an average 40’ spacing (with a bias toward retaining the largest healthy diameter trees).	This project does not propose shaded fuel breaks, but instead what would be considered roadside fuel reduction within the roadside fuel breaks. However, within commercial thinning units, residual canopy cover and basal area would be varied, with an emphasis of lowering residual canopy to the low-end of the thinning guidelines along ridgetops, roads, and along boundaries shared with private property.
3	The 179 acres of skyline with a target of 80-120 square feet of basal area will likely yield about 1 mmbf of commercial trees. This will be marginal economically because of the component of the cost for move-in and move-out. 1 mmbf is likely only about one month of operation. This could cause the project to be deficit.	We are aware that most of the work in this project will require additional funding, whether appropriated or grant. A variety of contract options are being considered to complete the work.
4	How are you going to remove the small trees and brush on slopes >35%. You are not going to do it with a skyline yarder due to the expense. A masticator on a cable (winch-assist) would be the logical approach.	A variety of methods can be considered in these areas - hand cut and pile, followed by burning; and depending on the amount of material - cut/lop and scatter. The Forest Service acknowledges the cost benefits of using ground-based equipment (winch assist) on steeper slopes.
5	The map shows an area as "adaptive management" but I don't see that mentioned in the letter. What will be happening in that location?	Added more detail in the proposed action where the adaptive management is to promote Layne’s butterweed.
6	I see that you plan to make 1-acre openings on up to 10% of the area. What criteria will you use to locate the openings?	When possible, existing openings such as areas with a prevalence of Heterobasidion root disease (formerly, S-type H. annosum), and/or areas with bark beetle, wind or snow event damage will be used. In areas with an abundance of hardwoods such as oaks would be used or expanded with the removal of conifers to promote the resilience of the hardwood components.
7	Suggested 3 management requirements to consider: a. Generally, if fire severity at a site is expected to be moderate or higher, hand pile and burn, with burn piles preferably located outside small occurrence areas or burn piles may be located within larger occurrence areas if the population is maintained or improved. Excessive trampling or other damage to Sensitive plants would be alleviated as needed by field guidance and training personnel to identify the species to be protected. b. If fire is expected to be low severity, allow burning through occurrences at times that are favorable for survival and persistence of the particular TES species present. c. Sensitive plant occurrence areas would be avoided during fireline construction. If the occurrence area is suitable for use as a natural fireline, allow that use only with minimal ground disturbance.	Considered when writing management requirements.
8	We are glad to see the American River Ranger District is proposing vegetation management that would meet multiple objectives and likely provide useful timber	We appreciate your support

ID	COMMENT	RESPONSE
	products to our membership. Our members depend on a predictable and economical supply of timber products off Forest Service land to run their businesses and to provide useful wood products to the American public, and we appreciate the Tahoe National Forest for contributing to this supply. AFRC supports the proposed action because it includes 925 acres of commercial thinning utilizing tractor and skyline yarding systems. In addition, the proposed action includes 1,792 acres of mastication and prescribed fire to create 4.3 miles of roadside fuel breaks. Hazard trees would be removed on 13 miles of road in the projects area.	
9	Maximize Acres Thinned for Forest Health Restoration. We support thinning overstocked stands to improve forest health and reduce hazardous fuel loading wherever it is needed. We appreciate the District's consideration of skyline yarding systems (179 acres) to treat slopes greater than 35%. It makes sense to effectively treat as many acres as possible when planning projects in the area.	We appreciate your support
10	Design Effective and Economically Efficient Thinning Projects. We support silvicultural prescriptions based on one effective thinning entry every 20 years. Heavier thinning on a 20-year cutting cycle would meet forest health objectives for a longer timeframe, create conditions more conducive to the establishment and growth of shade intolerant species, and provide sufficient value (sawtimber) to be economical. Stand Density Index (SDI) is an excellent measure of stand stocking density and vigor and can be used to determine effective tree stocking densities over time to meet forest health objectives. Timber sales with low volumes per acre and small diameters have high logging cost and may not be economical to harvest. A minimum sawtimber volume of 5 mbf per acre in tractor units and a minimum volume of 10 mbf per acre in skyline units, would make a difference in economic viability. To be viable, skyline harvesting should also have a minimum sawtimber volume of 2-3 mmbf with enough acres to cover 2 to 3 months of work for a yarder (2 to 3 months of normal operating period allows time to work around the LOPs to complete the work). Overly conservative thinning prescriptions resulting in low volume per acre would be less forest health effective and could contribute to no bid sales resulting in implementation of the no action alternative.	Stand densities are being lowered to the minimum canopy retention requirements allowed for (an average of 40% canopy cover across the treatment units) in the 2004 SNFPA ROD. While this does not always meet an effective 20-year re-entry cycle, it allows for stand management to meet multiple land-use objectives, and meets the purpose and need for the Michigan Bluff Project. Volume per acre/unit is not yet available pending the completion of the cruise. Some areas are anticipated to be low in timber volume but are included to meet fuels objectives within the Michigan Bluff WUI. The purpose of the project, including economic viability and other resource objectives, comes from the Tahoe National Forest Land and Resources Management Plan as amended by the Sierra Nevada Forest Plan Amendment. This particular project is more focused on protection of the town of Michigan Bluff, with economic viability as a secondary concern. The Forest Service acknowledges the concern about low volume per acre for the harvest methods proposed and are considering additional sources of funding and a variety of contract options for implementation.
11	Reduce Equipment Operating Restrictions on Slopes Greater than 35%. Please analyze an alternative that includes a non-significant Forest Plan Amendment to allow a one-time use of mechanical equipment on slopes greater than 35% (where applicable). In conjunction with cable harvesting on steeper slopes, there are opportunities to use certain mechanical ground based equipment such as feller bunchers and processors on slopes greater than 35% to make cable yarding more efficient and effective. Allowing the use of processors and feller bunchers can greatly increase economic viability. It can also facilitate the removal of small diameter biomass material. You cannot remove biomass with a skyline yarder alone due to the expense. Small trees could be bundled with a feller buncher for removal using the skyline system. In some cases, disturbance could be reduced by decreasing the amount of cable corridors, decreasing damage to the residual stand and providing a more even	The Forest Service acknowledges the cost benefits of using ground-based equipment on steeper slopes. Future projects will consider this new technology during the planning process. This project needs to be implemented quickly due to the hazardous conditions around the town of Michigan Bluff, and conventional operations will achieve the desired results, albeit at a slightly higher cost.

ID	COMMENT	RESPONSE
	distribution of woody debris following harvest. Mechanical equipment can be effective on steep slopes combined with skyline systems. Harvesting steep slopes with tethered machinery (winch assist) is a promising new technology (see attached “Tethered Equipment on Steep Slopes: Soil-Machine Interaction”).	
12	Reduce Equipment Operating Restrictions on Slopes Greater than 35%. Please analyze an alternative that includes a non-significant Forest Plan Amendment to allow a one-time use of mechanical equipment on slopes greater than 35% (where applicable). In conjunction with cable harvesting on steeper slopes, there are opportunities to use certain mechanical ground based equipment such as feller bunchers and processors on slopes greater than 35% to make cable yarding more efficient and effective. Allowing the use of processors and feller bunchers can greatly increase economic viability. It can also facilitate the removal of small diameter biomass material. You cannot remove biomass with a skyline yarder alone due to the expense. Small trees could be bundled with a feller buncher for removal using the skyline system. In some cases, disturbance could be reduced by decreasing the amount of cable corridors, decreasing damage to the residual stand and providing a more even distribution of woody debris following harvest. Mechanical equipment can be effective on steep slopes combined with skyline systems. Harvesting steep slopes with tethered machinery (winch assist) is a promising new technology (see attached “Tethered Equipment on Steep Slopes: Soil-Machine Interaction”).	same as above
13	If human remains become uncovered and determined Native American all work will cease and the appropriate tribe consulted with. Human remains and cultural resources should be differentiated.	This has been addressed and added in management requirement CR12.
14	Consider treatments that may expose the archaeology and invite vandalism or theft. Implication: do not expose or invite theft. Under CR 6 of the plan we prefer no burning of heavy fuels or heavy fuel concentrations within the site.	Fuels treatment options including: hand cutting, prescribed fire, and avoidance are available within the current management requirements. Consultation with the District Archaeologist is required before implementation. Concerns about fuels treatment methods can continue to be addressed in the fuels treatment plan prior to implementation. Our intent is to minimize affects to cultural resources while preventing severe damage from future wildfires.
15	Do not share site locations.	The cultural resource report and maps are administratively confidential.
16	SPI supports the Forest Service’s purpose and need for action within the Michigan Bluff Project Area. The project is needed and will help the Michigan Bluff residences and numerous outlying private residences within the Wildland Urban Interface complex. It will also tie in with the numerous past fuels reduction projects completed by the Forest Service and private landowners on the Divide ridge and surrounding area.	We appreciate your support
17	The commercial thin treatments units in the Michigan Bluff area are low in volume per acre which will make the logging cost expensive. Initially they appear to be suited more towards service work than a commercial timber sale.	The project has a lot of service work in it to reduce the fuels around Michigan Bluff.
18	The proposed cable logging area at Chicken Hawk was terraced with Cats and replanted after the Volcano Fire in the 60’s. While the slopes in the unit are generally	Ground-based logging has been considered for the cable logging areas. The interdisciplinary team determined the width of the

ID	COMMENT	RESPONSE
	over 35%, they are not excessively steep averaging 40-45%. An adaptive approach should be analyzed to allow ground based equipment to perform the thinning and fuels work and not commit to cable logging at this time. A feller-buncher can sit on the terraces and reach above and below for harvest trees, providing for control and less residual damage. Existing skid trails are in place to facilitate removal of the trees to a landing. The benefits will be a much lower logging cost, allow whole tree skidding economically, and greatly reduce the impact to the residual stand. There are numerous black oaks in the unit, especially on the east side. Yarding through oaks is very expensive and puts a lot more material on the ground that has to be dealt.	terraces was not wide enough to support a feller-buncher without an undesirable amount of soil displacement. The percentage of this project that is proposed for cable logging is within the general guidelines that industry has indicated to be feasible from an operational standpoint.
19	We would like to see the Forest Service add “economic viability and support to the local infrastructure” to the Purpose and Need of the Michigan Bluff Project. Supporting local industry and providing useful raw materials to maintain a robust manufacturing sector should be a principal objective to any project proposed on Forest Service land, particularly those designated as Matrix. The restoration treatments that are desired on these public lands cannot be implemented without a healthy forest products industry in place, both to complete the necessary work and to provide payments for the wood products generated to permit the service work to be completed. Industry depends on a predictable and economical supply of timber products off Forest Service land to run their business and to provide useful wood products to the American public. This supply is important for present day needs but also important for needs in the future. This future need for timber products hinges on the types of treatments implemented by the Forest Service today. Of particular importance is how those treatments effect the long-term sustainability of the timber resources on Forest Service managed land. We would like to see the importance of this supply recognized by including the provision of timber products into the Michigan Bluff project Purpose and Need. It is important to us that this provision is recognized by the Forest Service as a valued objective on Matrix land, and not simply a byproduct.	The purpose of the project, including economic viability and other resource objectives, comes from the Tahoe National Forest Land and Resources Management Plan as amended by the Sierra Nevada Forest Plan Amendment. The proposed action comes from focusing on the existing condition and defining the problem to be solved to change the existing condition to better approach the desired condition. The efficacy of the treatments are considered during planning and analysis for all affected resources. The primary objective for this project is to provide community protection from wildfire, and as a response to the need to provide this despite less than optimal forest economics. Despite timber receipts being a byproduct in this project, wood products will be generated and the local economy should see benefit from the use of contractors to implement the project.
20	The UAIC is concerned about development within its aboriginal territory that has potential to impact the lifeways, cultural sites, and landscapes that may be of sacred or ceremonial significance. We appreciate the opportunity to comment on this and other projects. The UAIC would like to consult on this project.	Consultation with the District cultural resource specialist is ongoing.
21	In order to ascertain whether the project could affect cultural resources that may be of importance to the UAIC, we would like to receive copies of any archaeological reports that are completed for the project. We also request copies of environmental documents.	Consultation with the District cultural resource specialist is ongoing.
22	We request and recommend that UAIC tribal representatives observe and participate in all cultural resource surveys.	Consultation with the District cultural resource specialist is ongoing.
23	The UAIC's Preservation Committee would like to set up a meeting or site visit, and begin consulting on the proposed project. Based on the Preservation Committee's identification of cultural resources in and around your project area, the UAIC recommends that a tribal monitor be present during any ground disturbing activities.	Had a site visit with District cultural resource specialist.